Hydrological Summary for Great Britain

MAY 1994

Rainfall

May was characterised by very large regional variations in rainfall, temperature and sunshine amounts. Broadly, northern Britain was sunny and dry, notably so in much of Scotland where high pressure predominated. By contrast, southern Britain - apart from the beginning and end of the month - experienced dull and wet weather. The synoptic conditions produced an unusual south-north rainfall gradient; the monthly total at Exeter, for example, being an order of magnitude greater than that for Glasgow (11 mm). Catchment rainfall totals approached 200% of the May average in parts of southern England but declined to less than 30% in parts of Scotland. Provisional data suggest that, countrywide, Scotland registered its lowest monthly rainfall total for ten years (the spring having begun with the wettest March in a 125-year record!). The limited rainfall, warm weather and the drying effect of the prevailing easterlies were responsible for some unseasonably early forest fires. May ended a sequence of five consecutive months with above average rainfall in large parts of northern Britain. In the greater part of the English lowlands the run of wet months continues - extending, remarkably, to 14 months in a few eastern catchments; the most persistently unsettled episode since at least 1960/61 in some areas. Correspondingly, accumulated rainfall totals in the 6-14 month timeframes are exceptional, and unprecedented in many catchments with areal rainfall records of 30-years or less. A telling index of the unsettled nature of weather conditions in the recent past is the dearth of dry days. In parts of central and southern England, less than 70 dry days have been recorded since last August, in a average year around 120-130 would be expected. Rainfall in all regions is well above average both for the year thus far and over the last 12 months - the highest (for any start month) for >30 years in many southern areas. Long return periods are associated with long term rainfall accumulations for the Anglian, Thames, Southern, Wessex and South-West regions.

River Flow

May began with healthy, if not notable, flow rates in most rivers. In northern Britain minor spates occurred in the first week but, thereafter, recessions were steep and sustained. In much of eastern and southern Britain developing soil moisture deficits reduced catchment responsiveness to the May rainfall but, in permeable catchments, substantial groundwater contributions maintained runoff rates at well above the the seasonal average. Away from the English lowlands monthly runoff totals declined as a proportion of the long term average and were often below 60% of the May mean in northern Britain - but still well within the normal range. Medium and long term runoff accumulations are considerably above average throughout most of the country and, in the eastern lowlands, testify to a noteworthy recovery since the 1988-92 drought. The Mimram, which drains a chalk catchment, established a new maximum spring runoff total but, more notably, runoff over the last year is the highest on record (for any 12-month sequence); similarly the accumulated total since September 1992 is unprecedented (as is that for the Kennet). For a significant proportion of lowland spring-fed rivers, mean flows over the 18 months ending in May 1994 are around three times the average for the preceding 18 months; the associated headwater extension of the stream network (and with it, aquatic habitats) has been correspondingly dramatic.

Groundwater

Accelerating evaporation rates in May meant that, as usual in late spring, aquifer recharge was limited and patchy. At a few index sites in fissured aquifers (e.g. Ampney Crucis), a modest upturn in levels was recorded. Generally in the south, however, infiltration during May resulted only in a moderation in the established recessions. Northern aquifers displayed far brisker declines in groundwater levels with a steep fall at Dalton Holme (Chalk and Upper Greensand) and a 20-metre fall in the Carboniferous Limestone at Alstonfield. Broadly, levels in most of the southern Chalk remain well above average, especially in the eastern Chilterns and Norfolk; levels in parts of the North and South Downs are also notably high. Reflecting the May rainfall, levels in the Permo-Trias show large spatial variation but within the normal range. Levels declined in most outcrop areas but Weeford Flats returned to average for the first time since 1988 and recoveries continue in the slow-responding confined zones.

General

In early May, warm conditions generated a surge of garden watering and irrigation use but subsequently demand moderated. Very limited inflows produced significant reductions in reservoir stocks in northern Britain but at month-end the water resources outlook remained healthy in all regions.

Institute of Hydrology

British Geological Survey

Data for this report have been provided principally by the regional divisions of the National Rivers Authority* in England and Wales, the River Purification Boards in Scotland and by the Meteorological Office. Reservoir contents information has been supplied by the Water Services Companies, the NRA or, in Scotland, the Lothians Regional Council. The most recent areal rainfall figures are derived from a restricted network of raingauges and a proportion of the river flow data is of a provisional nature.

A map (Figure 3) is provided to assist in the location of the principal monitoring sites.

Financial support towards the production of the Hydrological Summaries is given by the Department of the Environment and the National Rivers Authority.

The Hydrological Summaries are available on annual subscription at a current cost of £48 per year - enquiries should be directed to the National Water Archive Office at the address below. No charge is made to those organisations providing data for the Summaries.

* For reasons of consistency and to provide greater spatial discrimination, the original ten regional divisions of the NRA have been retained for use in the Hydrological Summaries.

MORECS

Most of the recent monthly regional rainfall data featured in the Hydrological Summaries are MORECS assessments. MORECS is the generic name for The Meteorological Office services involving the calculation of evaporation and soil moisture routinely for Great Britain. Products include a weekly issue of maps and tables of potential and actual evaporation, soil moisture deficits, effective rainfall and the hydrometeorological variables used to calculate them. The data are used to provide values for 40 km squares - or larger areas - and various sets of maps and tables are available according to user requirements. Options include a day-by-day retrospective calculation of soil moisture at any of 4000 rain-gauge sites.

Further information about MORECS services may be obtained from: The Meteorological Office, Sutton House, London Road, Bracknell, RG12 2SY

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 13 June 1994

TABLE 1 1993/94 RAINFALL AS A PERCENTAGE OF THE 1961-90 AVERAGE

		May 1993	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 1994	Feb	Mar	Apr	May
England and Wales	mm	89	66	83	55	113	89	74	167	123	82	93	75	70
	%	139	102	134	72	147	105	82	178	140	130	129	125	109
NRA REGIONS														
North West	mm	128	57	109	80	87	51	65	248	145	70	151	151	39
	%	171	70	128	75	76	40	53	200	120	90	159	213	52
Northumbria	mm	119	39	59	77	109	91	63	135	108	70	82	65	24
	%	192	65	91	95	149	120	73	167	129	119	117	116	38
Severn-Trent	mm	80	72	79	43	95	74	67	137	94	71	74	59	52
	%	136	122	149	64	148	116	94	178	134	131	121	107	89
Yorkshire	mm	83	48	68	78	132	62	63	134	117	68	69	61	45
	%	138	80	115	105	194	85	79	161	148	117	101	103	74
Anglian	mm	52	49	69	45	105	90	70	85	73	44	52	52	51
	%	108	96	141	82	214	176	121	155	146	119	111	113	106
Thames	mm	61	57	55	33	103	111	47	104	97	59	49	59	77
	%	109	104	112	57	175	179	72	149	152	131	88	118	138
Southern	mm	58	53	62	37	123	134	63	154	124	63	57	78	88
	%	107	98	129	65	178	168	74	188	155	117	90	147	162
Wessex	mm	62	69	76	36	120	122	63	169	126	99	79	63	88
	%	102	121	146	55	167	154	76	182	145	152	113	119	144
South West	mm	131	108	128	39	168	119	107	264	186	174	124	87	93
	%	182	157	186	46	181	103	86	190	135	172	125	126	129
Welsh	mm	134	99	111	75	118	81	113	259	183	130	177	115	73
	%	163	125	144	74	103	59	80	169	128	134	165	144	89
Scotland	mm	111	72	113	74	76	118	76	232	215	99	249	134	25
	%	129	84	120	63	54	76	50	154	142	97	199	176	29
RIVER PURIFICATION BOARDS														
Highland	mm	93	83	142	89	52	139	68	266	257	84	338	188	29
	%	101	85	134	70	30	70	33	135	137	66	209	207	32
North-East	mm	108	59	79	69	88	171	44	113	132	105	105	77	15
	%	157	89	108	79	101	176	44	122	133	162	135	128	22
Tay	mm	128	58	90	58	100	127	77	157	200	114	229	103	19
	%	154	79	117	62	88	98	64	124	139	120	210	166	23
Forth	mm	120	72	73	50	79	108	73	187	160	88	204	83	16
	%	162	104	97	53	72	94	65	170	136	111	217	141	22
Tweed	mm	131	62	54	52	91	134	55	171	140	86	122	71	18
	%	185	95	74	59	102	141	59	184	140	128	154	125	25
Solway	mm	146	72	101	65	102	54	97	266	197	117	191	120	27
	%	172	86	112	55	71	34	67	180	126	116	163	156	32
Clyde	mm	117	77	137	89	74	67	113	300	269	114	301	148	33
	%	129	83	126	66	41	35	63	168	142	97	205	176	36

Note: The monthly rainfall figures for the NRA regions for May correspond to the MORECS areal assessments derived by The Meteorological Office. In northern England these initial assessments may have a particularly wide error band associated with them. The figures for the RPB regions for May 1994 were derived by IH in collaboration with the RPBs. The provisional figures for England and Wales and for Scotland are derived using a different raingauge network. Regional areal rainfall figures are regularly updated (normally one or two months in arrears) using figures derived from a far denser raingauge network.

TABLE 2 RAINFALL RETURN PERIOD ESTIMATES

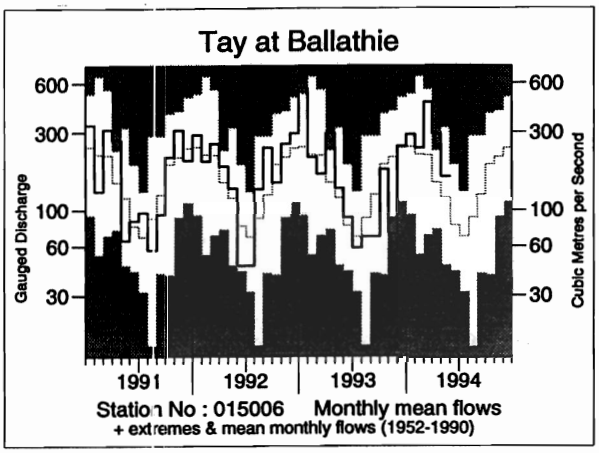
		Mar94-May94		Sep93-May94		Jun93-May94		Mar92-May94	
		Est Return Period, years		Est Return Period, years		Est Return Period, years		Est Return Period, years	
England and Wales	mm	238		886		1090		2282	
	% LTA	121	5-10	128	25-40	122	15-25	115	15-25
NRA REGIONS									
North West	mm	341		1007		1253		2803	
	% LTA	141	10-20	108	2-5	104	2-5	106	2-5
Northumbria	mm	171		747		922		2081	
	% LTA	91	2-5	115	5-10	108	2-5	110	5-10
Severn-Trent	mm	185		723		917		1941	
	% LTA	106	2-5	126	10-20	122	10-20	115	10-20
Yorkshire	mm	175		751		945		2003	
	% LTA	93	2-5	120	5-10	115	5-10	110	5-10
Anglian	mm	155		622		785		1642	
	% LTA	110	2-5	141	80-120	132	50-80	123	80-120
Thames	mm	185		706		851		1855	
	% LTA	114	2-5	134	25-40	124	10-20	121	30-45
Southern	mm	223		884		1036		2070	
	% LTA	131	5-10	143	70-100	133	40-60	120	30-45
Wessex	mm	230		929		1110		2197	
	% LTA	125	2-5	140	50-80	132	35-50	118	15-25
South West	mm	304		1322		1597		3068	
	% LTA	127	5-10	139	60-90	136	80-120	119	25-40
Welsh	mm	365		1249		1534		3266	
	% LTA	136	5-15	118	5-10	117	5-10	113	5-15
Scotland	mm	408		1224		1483		3632	
	% LTA	142	30-50	107	205	103	2-5	115	40-60
RIVER PURIFICATION BOARDS									
Highland	mm	555		1421		1735		4367	
	% LTA	161	150-250	99	2-5	99	2-5	113	15-25
North-East	mm	197		850		1057		2339	
	% LTA	95	2-5	114	5-10	109	2-5	109	5-10
Tay	mm	351		1126		1332		3209	
	% LTA	138	10-20	114	5-10	108	2-5	118	35-50
Forth	mm	303		998		1193		2830	
	% LTA	134	10-15	115	5-10	108	2-5	116	30-40
Tweed	mm	211		888		1056		2474	
	% LTA	102	2-5	119	5-15	109	2-5	115	15-25
Solway	mm	338		1171		1409		3436	
	% LTA	121	5-10	104	2-5	99	2-5	110	5-10
Clyde	mm	482		1419		1722		4279	
	% LTA	150	40-60	104	2-5	102	2-5	115	30-40

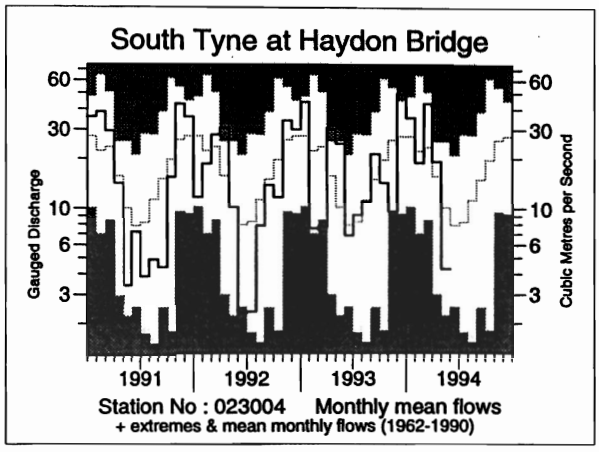
LTA refers to the period 1961-90.

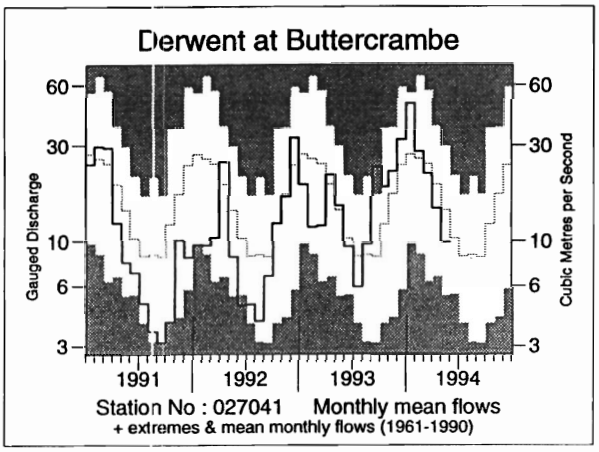
Return period assessments are based on tables provided by the Meteorological Office*. The tables reflect rainfall totals over the period 1911-70 only and the estimate assumes a sensibly stable climate. They assume a start in a specified month; return periods for a start in any month may be expected to be an order of magnitude less - for the longest durations the return period estimates converge. "Wet" return periods underlined.

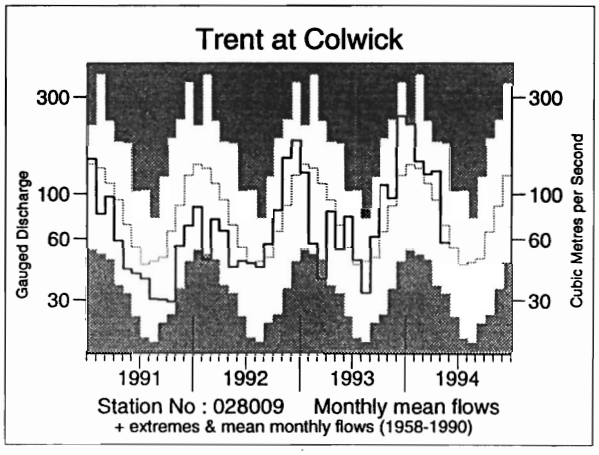
* Tabony, R.C., 1977, The Variability of long duration rainfall over Great Britain, Scientific Paper No. 37, Meteorological Office.

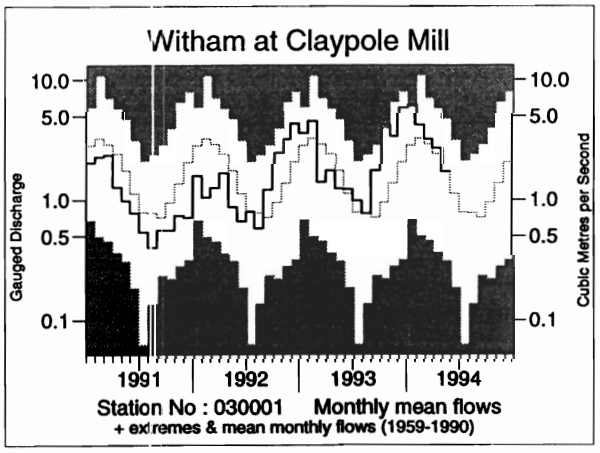
FIGURE 1 MONTHLY RIVER FLOW HYDROGRAPHS

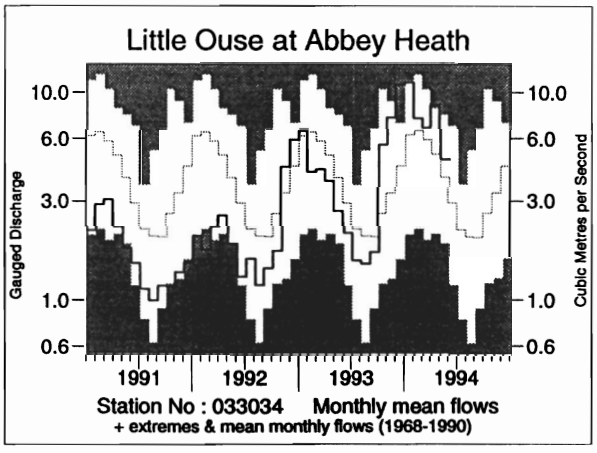


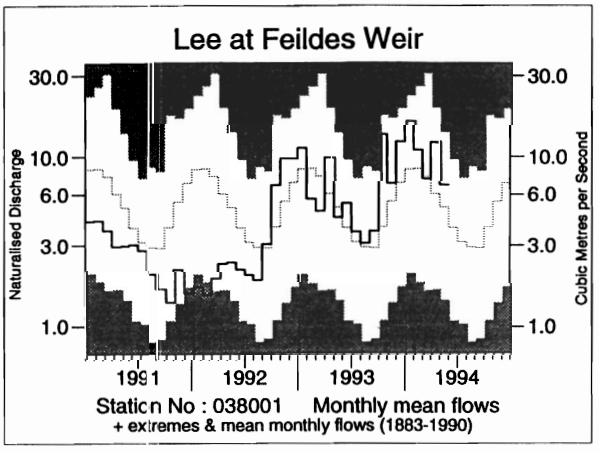


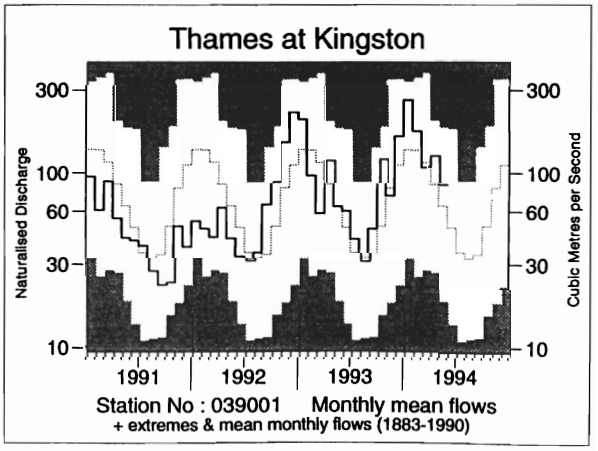


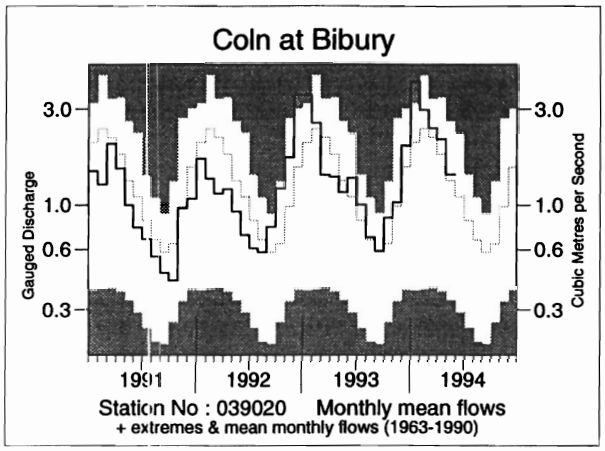


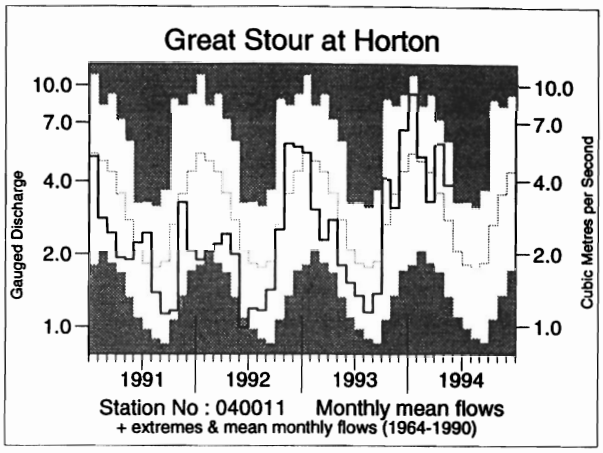


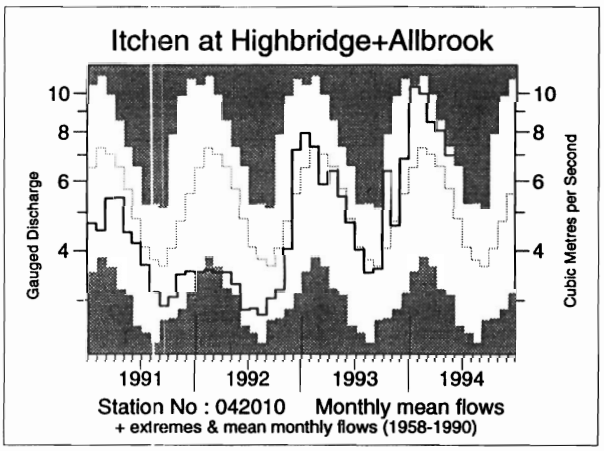


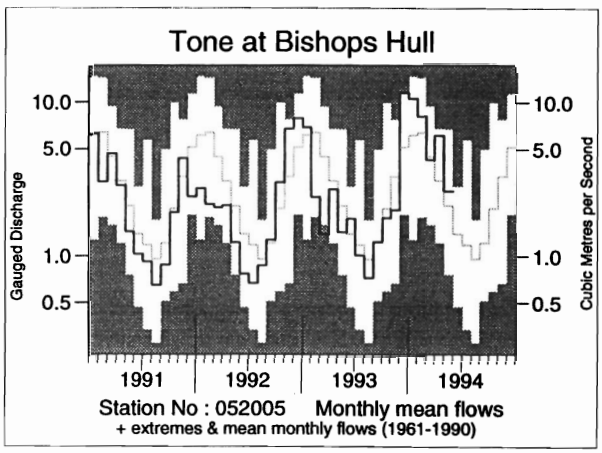


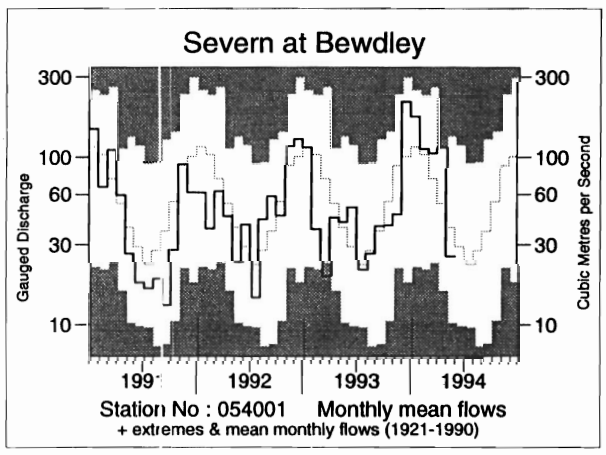


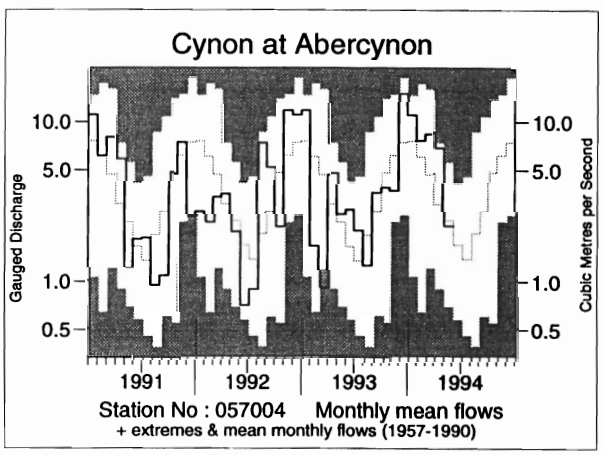

Coln at Bibury
Gauged Discharge
Cubic Metres per Second
3.0
1.0
0.6
0.3
1991
1992
1993
1994
Station No : 039020 Monthly mean flows
+ extremes & mean monthly flows (1963-1990)

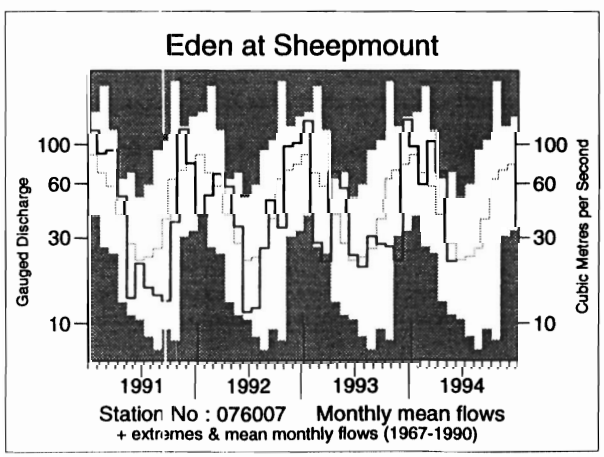

Great Stour at Horton
Gauged Discharge
Cubic Metres per Second
10.0
7.0
4.0
2.0
1.0
1991
1992
1993
1994
Station No : 040011 Monthly mean flows
+ extremes & mean monthly flows (1964-1990)


Itchen at Highbridge+Allbrook
Gauged Discharge
Cubic Metres per Second
10
8
6
4
1991
1992
1993
1994
Station No : 042010 Monthly mean flows
+ extremes & mean monthly flows (1958-1990)


Tone at Bishops Hull
Gauged Discharge
Cubic Metres per Second
10.0
5.0
1.0
0.5
1991
1992
1993
1994
Station No : 052005 Monthly mean flows
+ extremes & mean monthly flows (1961-1990)


Severn at Bewdley
Gauged Discharge
Cubic Metres per Second
300
100
60
30
10
1992
1993
1994
Station No : 054001 Monthly mean flows
+ extremes & mean monthly flows (1921-1990)


Cynon at Abercynon
Gauged Discharge
Cubic Metres per Second
10.0
5.0
1.0
0.5
1991
1992
1993
1994
Station No : 057004 Monthly mean flows
+ extremes & mean monthly flows (1957-1990)


Eden at Sheepmount
Gauged Discharge
Cubic Metres per Second
100
60
30
10
1991
1992
1993
1994
Station No : 076007 Monthly mean flows
+ extremes & mean monthly flows (1967-1990)

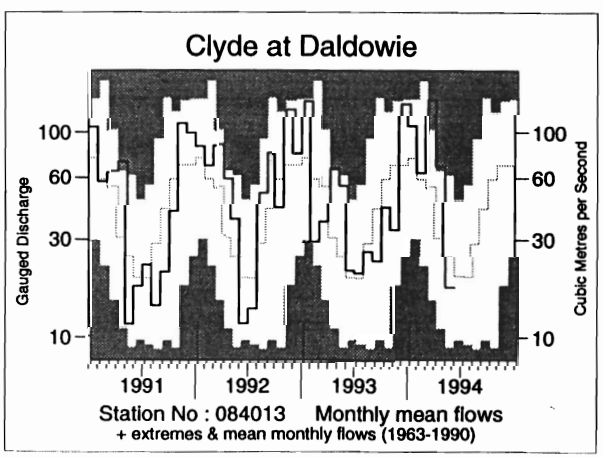

Clyde at Daldowie
Gauged Discharge
Cubic Metres per Second
100
60
30
10
1991
1992
1993
1994
Station No : 084013 Monthly mean flows
+ extremes & mean monthly flows (1963-1990)

TABLE 3 RUNOFF AS MM. AND AS A PERCENTAGE OF THE PERIOD OF RECORD AVERAGE WITH SELECTED PERIODS RANKED IN THE RECORD

River/ Station name	Jan 1994	Feb	Mar	Apr	May 1994		3/94 to 5/94		12/93 to 5/94		6/93 to 5/94		9/92 to 5/94	
	mm %LT	mm %LT	mm %LT	mm %LT	mm %LT	rank /yrs	mm %LT	rank /yrs	mm %LT	rank /yrs	mm %LT	rank /yrs	mm %LT	rank /yrs
Dee at	122	64	167	96	48	10	311	18	577	19	912	18	1676	16
Park	138	89	178	123	78	/22	131	/22	118	/22	115	/21	112	/20
Tay at	169	126	268	166	94	33	528	42	967	41	1273	34	2594	36
Ballathie	117	110	209	194	136	/42	182	/42	139	/42	112	/41	121	/40
Tweed at	149	78	165	81	33	16	279	32	674	33	923	31	1749	32
Boleside.	145	100	205	151	79	/34	155	/34	146	/33	121	/33	122	/32
Whiteadder Water at	113	55	51	26	14	7	90	8	356	21	504	20	849	17
Hutton Castle	194	114	101	67	53	/25	79	/25	132	/25	127	/24	115	/24
South Tyne at	126	61	155	67	15	7	236	26	600	32	851	23	1565	22
Haydon Bridge	131	83	182	120	43	/32	132	/32	133	/32	112	/30	109	/28
Wharfe at	155	64	117	73	19	12	208	31	582	36	827	30	1418	21
Flint Mill Weir	159	84	152	134	50	/39	123	/39	132	/39	114	/38	105	/37
Derwent at	82	43	37	24	17	11	77	12	256	23	404	26	650	21
Buttercrambe	183	109	90	76	71	/33	82	/33	117	/33	124	/32	107	/31
Trent at	78	47	45	45	21	18	110	26	321	34	470	33	762	26
Colwick	158	111	113	141	84	/36	116	/36	138	/36	132	/35	116	/34
Lud at	74	48	42	38	33	19	113	20	283	23	394	24	551	18
Louth	262	148	123	123	130	/26	126	/26	163	/26	158	/25	121	/25
Witham at	56	34	29	23	15	26	68	23	210	33	319	33	527	34
Claypole Mill	223	133	112	114	100	/36	110	/35	157	/35	171	/35	152	/34
Little Ouse at	42	26	26	32	18	22	75	21	185	25	259	24	390	22
Abbey Heath	190	121	120	180	126	/27	140	/26	159	/26	151	/26	126	/25
Colne at	34	23	13	22	10	28	44	24	141	30	194	30	334	30
Lexden	152	128	71	167	112	/35	112	/35	146	/35	141	/34	131	/33
Lee at	41	25	19	30	18	89	67	93	165	98	257	100	421	97
Feildes Weir (natr.)	192	130	98	203	138	/109	142	/108	154	/108	158	/107	141	/105
Thames at	71	43	29	32	23	91	85	80	242	96	342	98	625	102
Kingston (natr.)	193	129	94	145	133	/112	120	/112	142	/111	139	/111	136	/110
Coln at	102	67	61	51	35	23	147	23	366	30	503	28	925	29
Bibury	203	127	114	121	109	/31	115	/31	133	/31	127	/30	127	/29
Great Stour at	71	36	26	43	29	26	98	23	255	24	351	23	581	16
Horton	180	108	78	166	140	/30	124	/29	137	/28	121	/28	108	/26
Itchen at	77	67	63	58	52	31	172	34	368	34	564	33	931	29
Highbridge+Allbrook	164	140	123	126	124	/36	124	/36	132	/36	123	/35	113	/34
Piddle at	115	79	73	59	43	28	176	27	442	30	606	29	988	25
Baggs Mill	226	138	132	140	139	/31	135	/31	156	/30	149	/29	131	/27
Exe at	209	137	125	133	34	22	292	37	908	38	1167	37	1891	33
Thorverton	163	132	148	238	90	/39	163	/38	166	/38	140	/38	120	/37
Taw at	193	124	112	112	25	20	249	35	795	36	1105	35	1725	33
Umberleigh	168	146	165	256	85	/36	175	/36	172	/36	158	/35	129	/34
Tone at	138	96	55	77	34	27	166	28	551	33	659	32	1092	29
Bishops Hull	176	131	97	201	128	/34	137	/34	161	/33	140	/33	122	/32
Severn at	108	63	65	67	16	25	149	66	451	72	585	64	951	52
Bewdley	152	109	141	213	68	/74	146	/73	154	/73	130	/73	112	/72
Teme at	91	65	33	47	11	6	91	10	350	22	466	23	766	16
Knightsford Bridge	141	125	68	142	53	/25	92	/24	129	/24	128	/24	111	/23
Cynon at	281	175	213	164	56	19	433	35	1264	36	1695	34	2986	32
Abercynon	148	128	178	214	95	/36	167	/36	161	/36	133	/34	125	/32
Dee at	301	176	319	195	41	11	555	24	1545	25	2016	18	3447	14
New Inn	128	106	175	183	62	/25	154	/25	152	/25	112	/24	102	/24
Eden at	114	63	122	79	26	11	227	23	565	23	740	14	1421	15
Sheepmount	113	85	173	168	80	/24	147	/24	133	/23	107	/22	110	/20
Clyde at	152	81	199	91	24	12	314	31	738	31	971	28	1874	29
Daldowie	141	106	259	203	70	/31	192	/31	163	/31	123	/30	127	/29
Carron at	364	84	451	300	56	6	808	15	1574	11	2247	4	4695	6
New Kelso	119	40	158	213	56	/16	151	/16	111	/15	87	/15	97	/14
Ewe at	258	159	326	264	119	18	709	22	1391	17	2035	9	4443	17
Poolewe	98	86	163	190	120	/24	158	/24	118	/24	95	/23	110	/22

Notes:

(i) Values based on gauged flow data unless flagged (natr.), when naturalised data have been used.

(ii) Values are ranked so that lowest runoff is rank 1.

(iii) %LT means percentage of long term average from the start of the record to 1992. For the long periods (at the right of this table), the end date for the long term is 1993.

TABLE 4 START-MONTH RESERVOIR STORAGES UP TO JUNE 1994

Area	Reservoir (R)/ Group (G)		Capacity● (Ml)	1994 Jan	Feb	Mar	Apr	May	June	1993 June
North West	Northern Command Zone[1]	(G)	133375	80	97	93	100	97	85	92
	Vyrnwy	(R)	55146	100	100	100	100	94	87	94
Northumbria	Teesdale[2]	(G)	87936	100	97	96	100	99	83	96
	Kielder	(R)	199175*	99*	98*	91*	96*	93*	92*	96*
Severn-Trent	Clywedog	(R)	44922	100	100	98	99	96	93	100
	Derwent Valley[3]	(G)	39525	100	100	99	100	97	90	90
Yorkshire	Washburn[4]	(G)	22035	92	100	98	100	94	89	94
	Bradford supply[5]	(G)	41407	97	99	98	98	96	83	91
Anglian	Grafham	(R)	58707	89	93	98	91	96	96	95
	Rutland	(R)	130061	95	96	97	96	96	95	93
Thames	London[6]	(G)	207569	87	87	87	89	89	88	96
	Farmoor [7]	(G)	13843	98	98	99	98	98	98	98
Southern	Bewl	(R)	28170	97	100	92	100	100	100	96
	Ardingly	(R)	4685	100	100	100	100	100	100	100
Wessex	Clatworthy	(R)	4918	100	100	100	100	99	88	86
	Bristol W [8]	(G)	38666*	88*	88*	99*	99*	98*	94*	84*
South West	Colliford	(R)	28540	98	100	100	100	100	96	84
	Roadford	(R)	34500	92	98	97	100	97	92	78
	Wimbleball[9]	(R)	21320	100	100	100	100	99	99	89
	Stithians	(R)	5205	100	100	100	100	96	93	91
Welsh	Celyn + Brenig	(G)	131155	100	100	100	100	99	97	99
	Brianne	(R)	62140	100	100	100	100	100	96	100
	Big Five[10]	(G)	69762	98	99	99	100	97	93	92
	Elan Valley[11]	(G)	99106	100	100	100	100	99	95	100
Lothian	Edinburgh/Mid Lothian	(G)	97639	92	97	94	99	98	93	99
	West Lothian	(G)	5613	100	99	96	99	100	91	99
	East Lothian	(G)	10206	98	97	99	98	99	95	100

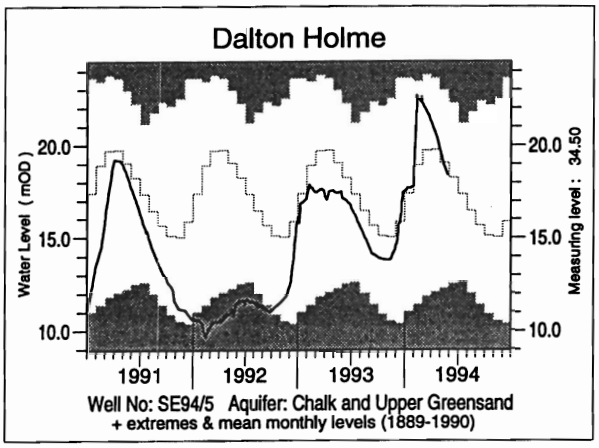
● Live or usable capacity (unless indicated otherwise)

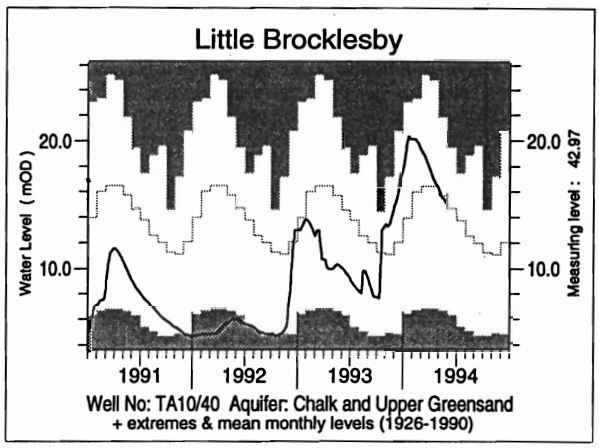
* Gross storage/percentage of gross storage

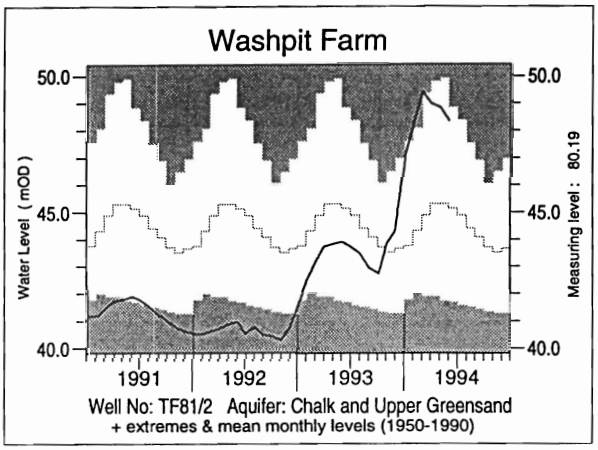
1. Includes Haweswater, Thirlmere, Stocks and Barnacre.
2. Cow Green, Selset, Grassholme, Balderhead, Blackton and Hury.
3. Howden, Derwent and Ladybower.
4. Swinsty, Fewston, Thruscross and Eccup.
5. The Nidd/Barden group (Scar House, Angram, Upper Barden, Lower Barden and Chelker) plus Grimwith.
6. Lower Thames (includes Queen Mother, Wraysbury, Queen Mary, King George VI and Queen Elizabeth II) and Lee Valley (includes King George and William Girling) groups - pumped storages.
7. Farmoor 1 and 2 - pumped storages.
8. Blagdon, Chew Valley and others.
9. Shared between South West (river regulation for abstraction) and Wessex (direct supply).
10. Usk, Talybont, Llandegfedd (pumped storage), Taf Fechan, Taf Fawr.
11. Claerwen, Caban Coch, Pen y Garreg and Craig Goch.

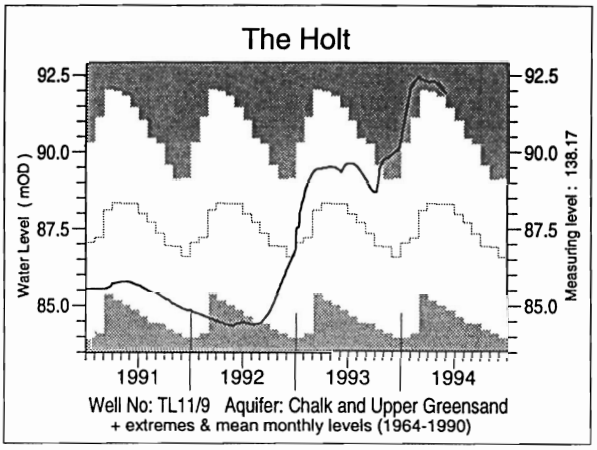
Note: Variations in storage depend on the balance between inputs (from catchment rainfall and any pumping) and outputs (to supply, compensation flow, HEP, amenity). There will be additional losses due to evaporation, especially in the summer months. Operational strategies for making the most efficient use of water stocks will further affect reservoir storages. Table 4 provides a link between the hydrological conditions described elsewhere in the report and the water resources situation.

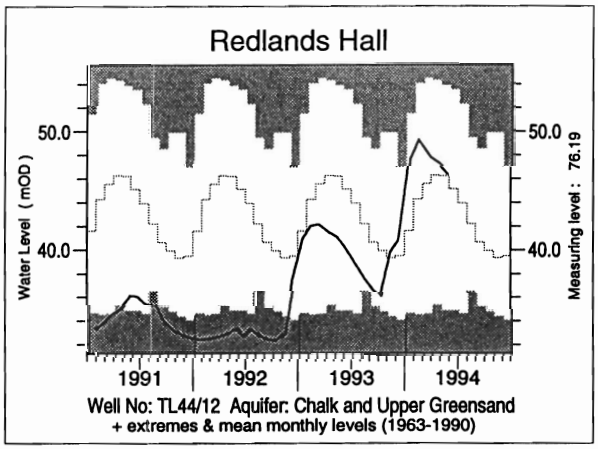
FIGURE 2 GROUNDWATER LEVEL HYDROGRAPHS

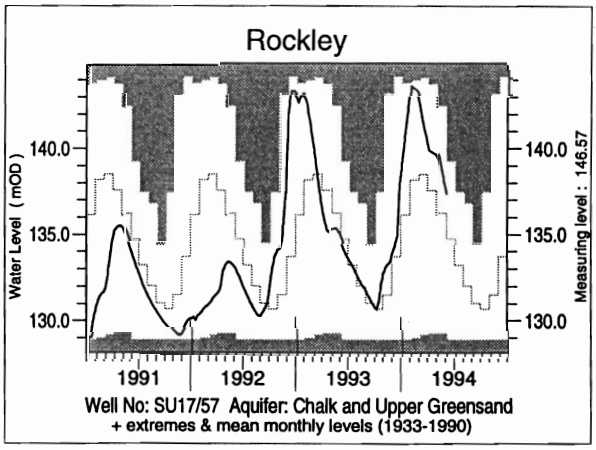


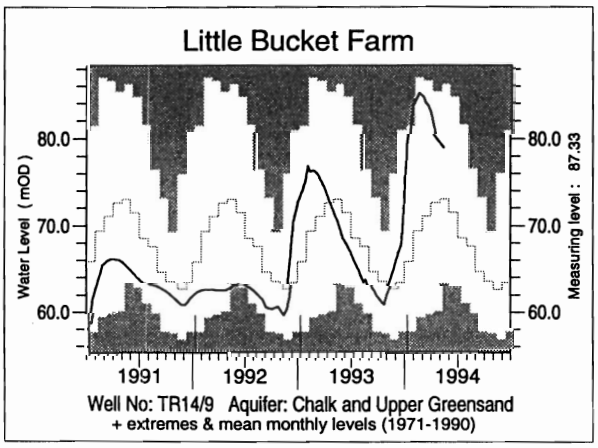


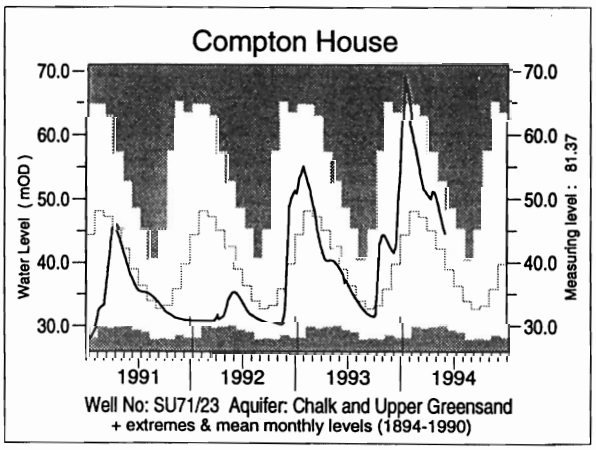


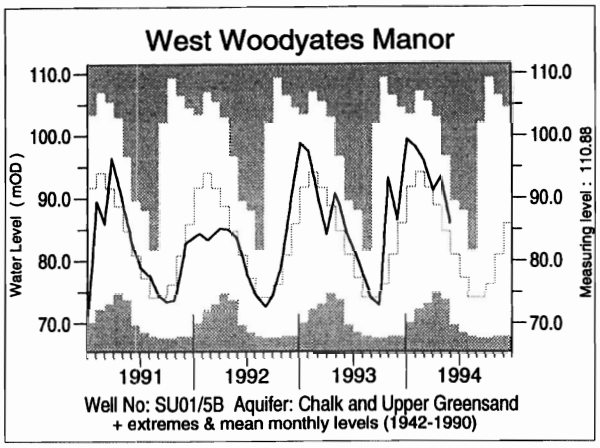


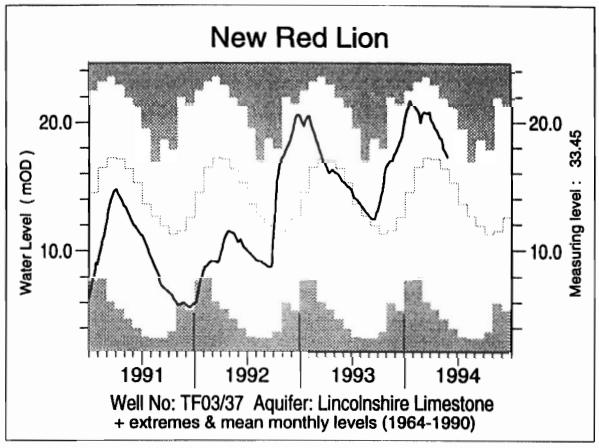


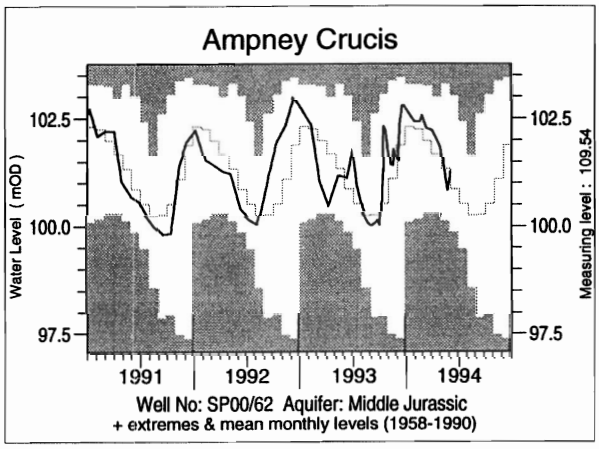


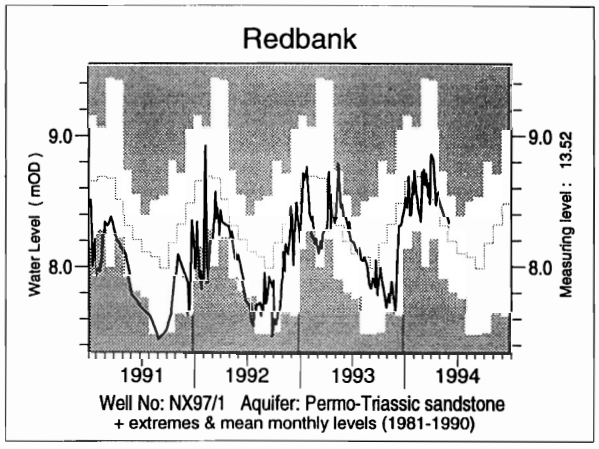


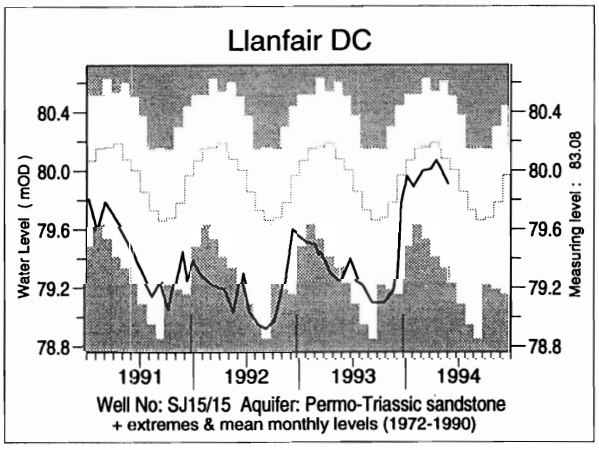


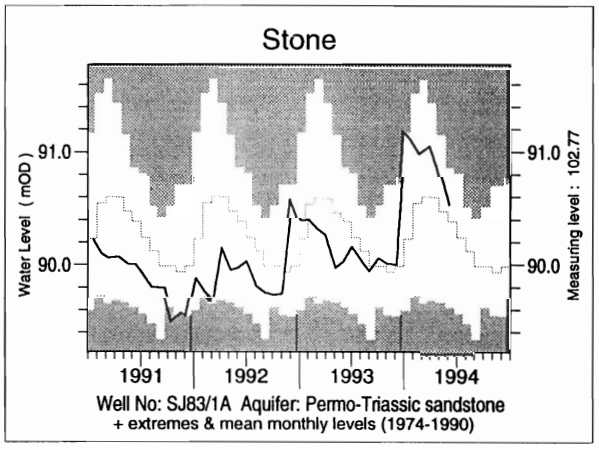

West Woodyates Manor
Water Level (mOD)
110.0
100.0
90.0
80.0
70.0
Measuring level : 110.88
1991
1992
1993
1994
Well No: SU01/5B Aquifer: Chalk and Upper Greensand
+ extremes & mean monthly levels (1942-1990)

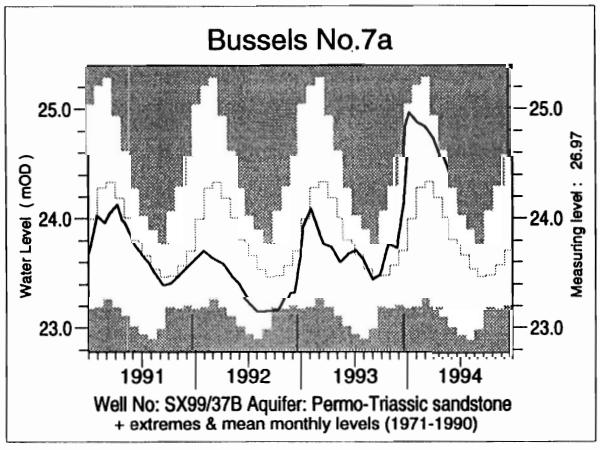

New Red Lion
Water Level (mOD)
20.0
10.0
Measuring level : 33.45
1991
1992
1993
1994
Well No: TF03/37 Aquifer: Lincolnshire Limestone
+ extremes & mean monthly levels (1964-1990)


Ampney Crucis
Water Level (mOD)
102.5
100.0
97.5
Measuring level : 109.54
1991
1992
1993
1994
Well No: SP00/62 Aquifer: Middle Jurassic
+ extremes & mean monthly levels (1958-1990)


Redbank
Water Level (mOD)
9.0
8.0
Measuring level : 13.52
1991
1992
1993
1994
Well No: NX97/1 Aquifer: Permo-Triassic sandstone
+ extremes & mean monthly levels (1981-1990)


Llanfair DC
Water Level (mOD)
80.4
80.0
79.6
79.2
78.8
Measuring level : 83.08
1991
1992
1993
1994
Well No: SJ15/15 Aquifer: Permo-Triassic sandstone
+ extremes & mean monthly levels (1972-1990)


Stone
Water Level (mOD)
91.0
90.0
Measuring level : 102.77
1991
1992
1993
1994
Well No: SJ83/1A Aquifer: Permo-Triassic sandstone
+ extremes & mean monthly levels (1974-1990)


Bussels No.7a
Water Level (mOD)
25.0
24.0
23.0
Measuring level : 26.97
1991
1992
1993
1994
Well No: SX99/37B Aquifer: Permo-Triassic sandstone
+ extremes & mean monthly levels (1971-1990)

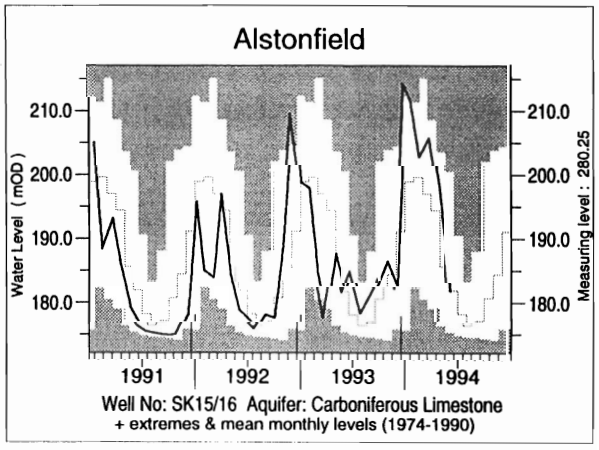

Alstonfield
Water Level (mOD)
210.0
200.0
190.0
180.0
Measuring level : 280.25
1991
1992
1993
1994
Well No: SK15/16 Aquifer: Carboniferous Limestone
+ extremes & mean monthly levels (1974-1990)

TABLE 5 A COMPARISON OF MAY GROUNDWATER LEVELS: 1993 AND 1994

Site	Aquifer	Records commence	Minimum May	Average May	Maximum May	May 1993		May/June 1994	
			<1994	<1994	<1994	day	level	day	level
Dalton Holme	C & UGS	1889	10.77	19.11	22.99	28/05	17.49	27/05	18.41
Wetwang	C & UGS	1971	19.14	23.61	30.02	28/05	23.06	27/05	21.29
Little Brocklesby	C & UGS	1926	5.56	14.69	21.77	24/05	10.23	26/05	15.17
Washpit Farm	C & UGS	1950	40.87	45.27	49.90	04/05	43.83	02/06	48.32
The Holt	C & UGS	1964	84.26	88.15	91.78	30/05	89.38	31/05	91.88
Therfield Rectory	C & UGS	1883	dry <71.6	81.51	97.72	04/05	80.46	01/06	86.70
Redlands Hall	C & UGS	1964	33.34	44.98	53.89	14/05	41.10	27/05	46.37
Rockley	C & UGS	1933	129.16	136.06	142.36	30/05	134.89	31/05	137.25
Little Bucket Farm	C & UGS	1971	62.84	72.07	86.15	20/05	70.18	15/05	78.91
Compton House	C & UGS	1984	29.71	41.18	52.55	17/05	40.13	01/06	44.53
Chilgrove House	C & UGS	1836	37.49	49.29	66.54	17/05	48.62	01/06	52.01
West Dean No.3	C & UGS	1940	1.24	1.87	2.84	28/05	1.87	28/05	2.36
Lime Kiln Way	C & UGS	1969	124.02	125.40	126.17	18/05	124.38	19/05	125.84
Ashton Farm	C & UGS	1974	65.29	68.65	70.33	15/05	68.09	31/05	68.94
West Woodyates Manor	C & UGS	1942	73.74	84.54	96.74	15/05	88.93	31/05	85.97
New Red Lion	LLst	1964	4.80	15.99	22.00	24/05	15.38	26/05	17.26
Ampney Crucis	Mid Jur	1958	100.12	101.26	103.30	10/05	101.17	31/05	101.25
Dunmurry (NI)	PTS	1985	27.71	28.27	28.75	28/05	28.59	24/05	27.53
Yew Tree Farm	PTS	1973	13.07	13.54	13.84	24/05	13.56	06/06	13.68
Llanfair D.C	PTS	1972	79.03	79.94	80.60	23/05	79.25	20/05	79.91
Morris Dancers	PTS	1969	31.85	32.48	33.50	18/05	31.85	13/05	32.25
Weeford Flats	PTS	1966	dry <88.61	90.03	91.61	05/05	dry <88.61	06/06	90.33
Stone	PTS	1974	89.67	90.45	91.16	05/05	89.97	06/06	90.53
Skirwith	PTS	1978	130.20	130.63	130.98	28/05	130.49	02/06	130.79
Redbank	PTS	1981	7.92	8.32	8.80	31/05	8.50	02/06	8.33
Bussels No.7A	PTS	1972	23.11	23.96	24.62	12/05	23.60	25/05	24.42
Rushyford NE	MgLst	1967	65.31	72.57	76.75	31/05	75.65	23/05	76.63
Peggy Ellerton	MgLst	1968	31.45	34.56	37.24	10/05	31.97	25/05	34.33
Alstonfield	CLst	1974	176.53	186.11	203.79	04/05	187.70	07/06	181.74

groundwater levels are in metres above Ordnance Datum

C & UGS	Chalk and Upper Greensand	Mid Jur	Middle Jurassic limestones
LLst	Lincolnshire Limestone	MgLst	Magnesian Limestone
PTS	Permo-Triassic sandstones	CLst	Carboniferous Limestone

Note: Table 5 has been redesigned to include both monthly minimum and monthly maximum levels.

FIGURE 3 LOCATION MAP OF GAUGING STATIONS AND GROUNDWATER INDEX WELLS